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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,047	03/17/2004	Takashi Ikeda	016907-1626	3473
22428	7590	06/14/2005	EXAMINER	
FOLEY AND LARDNER SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			GUADALUPE, YARITZA	
			ART UNIT	PAPER NUMBER
			2859	

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/802,047

Applicant(s)

IKEDA ET AL.

Examiner

Yaritza Guadalupe McCall

Art Unit

2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2004 and 21 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/17/04; 7/12/04.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 – 2 are rejected under 35 U.S.C. 102 ( b ) as being anticipated by European Patent No. 0 689 105 A2 [Hereinafter EP].

With respect to claim 1, EP discloses an image forming apparatus comprising a first chamber ( 38 ) including a first mixer ( 66 ) disposed in a first axial direction that coincides with an axial direction of an image carrying body (2) which carries an electrostatic latent image, the first mixer ( 66 ) stirring and conveying a developer containing at least a toner in a first direction and supplying the toner to the image carrying body; a second chamber ( 40, 44 ) disposed adjacent to the first chamber and including a second mixer ( 62 ) disposed in parallel to the first mixer, the second mixer stirring and conveying the developer in a second direction ( 108 )

different from the first direction ( 106 ); a third chamber (48 ) disposed adjacent to the second chamber and including a third mixer ( 64 ), the third mixer stirring and conveying the developer in the second direction; a recycle toner supply section ( See Column 33, lines 27 – 46 ) that is disposed on an upstream side of the third chamber and is supplied with a recycle toner recovered from a surface of the image carrying body; and a fresh toner supply section ( 118 ) that is disposed on an upstream side of the second chamber and is supplied with a fresh toner, wherein an upstream side of an axis of the third mixer is lower than an upstream side of an axis of the second mixer ( See Figure 1 ).

In regards to claim 2, EP also discloses an image forming apparatus wherein the second mixer ( 62 ) conveys the developer at a first speed, and the third mixer conveys the developer a second speed that is lower than the first speed ( See Column 15, lines 37 – 43 ).

3. Claims 4 – 5 are rejected under 35 U.S.C. 102 ( b ) as being anticipated by Japanese Patent 2001-249545 [Hereinafter JP ].

With regards to claim 4, JP discloses an image forming apparatus comprising a first . chamber including a first mixer ( 8 ) disposed a first axial direction that coincides with an axial direction of an image carrying body which carries an electrostatic latent image, the first mixer stirring and conveying a developer containing at least a toner in a first direction and supplying the toner to the image carrying body; a second chamber including a second mixer ( 9 ) disposed

adjacent to the first chamber and disposed in parallel to the first mixer, the second mixer stirring and conveying the developer in a second direction different from the first direction; a third chamber disposed adjacent to the second chamber and including a third mixer ( 7 ), the third mixer stirring and conveying the developer in the second direction; a recycle toner supply section that is disposed on an upstream side of the third chamber and is supplied with a recycle toner recovered from a surface of the image carrying body; and a fresh toner supply section that is disposed on an upstream side of the second chamber and supplied with a fresh toner, wherein a downstream side of an axis of the third mixer is higher than downstream side of an axis of the second mixer ( See Figure 4 ).

Regarding claim 5, JP also discloses an image forming apparatus wherein the second mixer conveys the developer at a first speed, and the third mixer conveys the developer second speed that is lower than the first speed.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over European Patent No. 0 689 105 A2 [Hereinafter EP].

EP discloses a device as stated in paragraph 2 above.

EP does not disclose the first and second speeds as stated in claim 3.

Regarding claim 3 : EP discloses an image forming apparatus having a second mixer conveying at a speed that is higher than the speed of the third mixer, but does not specify a particular rate of speed. However, EP suggests that the speed for the first, second and third mixers should be set as desired and based on the suitability ( See Column 16, lines 10 – 13 ). Therefore, to select the second speed to be 1/3 of the first speed, is only considered to be the “optimum” value of the speed for the mixer, as stated above, that a person having ordinary skill in the art at the time the invention was made would have been able to determine using routine experimentation based, among other things, on the desired accuracy and since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. See *In re Boesch*, 205 USPQ 215 ( CCPA 1980 ). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide the third mixer having a speed of 1/3 of the first speed, in order to bring the conveyance of the developer into substantial equilibrium by allowing uniform and continuous mixing action.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 2001-249545 [Hereinafter JP ] in view of European Patent No. 0 689 105 A2 [Hereinafter EP].

JP discloses a device as stated in paragraph 3 above.

JP does not disclose the first and second speeds as stated in claim 6.

Regarding claim 6 : JP discloses an apparatus having a first, a second, and a third mixer, but does not disclose the particular speed for each one of them. EP discloses an image forming apparatus having a second mixer conveying at a speed that is higher than the speed of the third mixer, but does not specify a particular rate of speed. In addition, EP suggests that the speed for the first, second and third mixers should be set as desired and based on the suitability ( See Column 16, lines 10 – 13 ). Therefore, to select the second speed to be 1/3 of the first speed, is only considered to be the “optimum” value of the speed for the mixer, as stated above, that a person having ordinary skill in the art at the time the invention was made would have been able to determine using routine experimentation based, among other things, on the desired accuracy and since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. See *In re Boesch*, 205 USPQ 215 ( CCPA 1980 ). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide the third mixer having a speed of 1/3 of the first speed, in order to bring the conveyance of the developer into substantial equilibrium by allowing uniform and continuous mixing action.

*Conclusion*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following reference are considered of relevance to the present application.

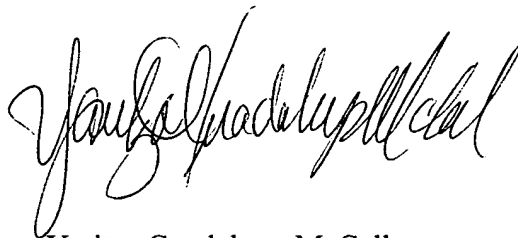
- a. Yamane et al. ( US 5,881,345 )
- b. Murakami et al. ( US 5,734,952 )
- c. Ogawa et al. ( US 5,734,657 )
- d. Amano et al. ( US Pub. No. 2005/ 111883 )
- e. Nishitani ( US Pub. No. 2005/0002700 )
- f. Ito et al. ( US 5,682,583 )
- g. Jeon ( US Pub. No. 2005/0002698 )
- h. Fukuyama et al. ( US Pub. No. 2004/0033083 )
- i. Murayama et al. ( US 6,266,503 )

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yaritza Guadalupe McCall whose telephone number is (571)272-2244. The examiner can normally be reached on 8:00 AM - 5:30 PM.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F.F. Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Yaritza Guadalupe-McCall', is positioned above the printed name.

Yaritza Guadalupe-McCall  
Patent Examiner  
Art Unit 2859

YGM  
June 13, 2005